(*Please write your Exam Roll No.*) Exam Roll No. .....

END TERM EXAMINATION

FOURTH SEMESTER [MCA] MAY-2010

Paper Code: MCA 208	Subject: Computer Networks
Paper ID: 44208	
Time : 3 Hours	Maximum Marks:60

Note: Question 1 is compulsory. Attempt one question from each unit.

Q1. Answer all the following questions briefly: (2x10=20)

(a) Differentiate Poll and Select in polling:-

(b) Draw line encoding for data 01001110 by NRZ-L and NRZ-1 encoding schemes.

(c) Differentiate between Integrated Services and Differentiated Services.

(d) Differentiate between class based Services from that of flow based Services.

(e) A telephone has banwidth of 3000Hz.The signal to noise ratio is 3162.Find the capacity of this channel.

(f) If the value of header length field is 8,calculate the number of bytes in the TCP header.

(g) Explain Single slave and multi slave communication in Bluetooth.

(h) What is a repeater?How is it different from that of bridges?Explain.

(i) What is frequency-division multiple access(FDMA) ?How is it different from TDMA.

(j) Explain the cell structure and frequency reuse pattern for cellular systems.

Unit-I

Q 2. (a) What is digital to analog modulation?Explain the mechanisms for modulating digital data to analog data?What kind of information is obtained from a constellation diagram?Explain. (6)

(b) Compare S-frames and I-frames in HDLC.Compare and contrast their control field. (4)

Q 3. (a) What are the responsibilities of internet layer and transport layer in TCP/IP reference model?Explain. (4)

(b) What is the sampling rate needed for a signal with a bandwidth of 30,000Hz(6,000Hz to 36,000Hz) ? (3)

(c) What are various types of Transmission Impairments associated with data Transmission? (3)

Unit-II

Q 4. (a) With reference to Data Link Layer,discuss the frame format of HDLC.How is bit stuffing performed in HDLC?Briefly explain. (6)

(b) What is Sliding Window Protocol?What is the importance of windows size in this protocol?Compare its efficiency with Stop & Wait Protocol? (4)

Q 5. (a) Generate a Hamming Coded Message for the Data frame 11001.How this Hamming Code will help in Error Detection & Correction?Briefly explain.(5)

(b) What are the various layers involved in Fast Ethernet.What are the common implementations of Fast Ethernet? (5)

Unit-III

Q 6. (a) What is congestion?How can it be controlled by Token Bucket Algorithm? Briefly explain. (5)

(b) Compare and contrast distance vector routing with that of link state routing. (5)

Q 7. (a) Describe various types of reporting messages in ICMP. (4)

(b) How is internetworking implemented in virtual circuits?Explain. (3)

(c) Compare and contrast IPv4 with that of IPv6. (3)

Unit-IV

Q 8. (a) Explain User Datagram format and state the various applications of UDP? (5)

(b) How is flow and error control implemented in TCP?Explain. (5)

Q 9. Write short notes on **any two** of the following:- (2x5=10)

(a) Digital Signature
(b) Routers
(c) Microwave Communication.